

**Claims**

1. Protective helmet (1) comprising a deformable internal foam liner (7), a

5 plurality of rigid external shell segments (9) arranged on the foam liner (7) so

as to form at least one crown segment (9a), at least one occipital segment

(9b) and a plurality of transverse side segments (9c), and joining means

made of flexible material performing joining between the shell segments (9),

helmet characterized in that the shell segments (9) and the joining means

10 made of flexible material (8, 17) are joined to the foam liner (7) in such a way

as to enable a slight sliding between the foam liner (7) and at least a part of

the shell segments (9).

2. Helmet according to claim 1, characterized in that it comprises at least

15 one front segment (9d).

3. Helmet according to one of the claims 1 and 2, characterized in that it

comprises at least four transverse side segments (9c).

20 4. Helmet according to any one of the claims 1 to 3, characterized in that it

comprises a headband adjustment means (14) fixedly secured at least to the

occipital segment (9b).

5. Helmet according to claim 4, characterized in that the adjustment means

25 (14) comprise a lace (20) joining the shell segments (9) to one another and

cooperating with a knurled knob (21) actuating tightening and loosening of

the helmet (1).

6. Helmet according to claim 4, characterized in that the adjustment means

30 (14) comprise a tab (23) equipped with plurality of teeth (24) forming a rack

and designed to cooperate with a pinion (25) fixedly secured to the occipital segment (9b).

7. Helmet according to any one of the claims 1 to 6, characterized in that it comprises a textile surface covering the shell segments (9).

8. Helmet according to any one of the claims 1 to 7, characterized in that the joining means made of flexible material are formed by a cap (8) completely covering the foam liner (7).

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9. Helmet according to claim 8, characterized in that the cap (8) comprises compartments (13) inside which the shell segments (9) are housed.

10. Helmet according to any one of the claims 1 to 7, characterized in that the joining means made of flexible material are formed by strips (17) joining the shell segments (9) to one another.

11. Helmet according to claim 10, characterized in that the strips (17) are made of elastomer.

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12. Helmet according to any one of the claims 1 to 10, characterized in that the flexible joining material is made from an anti-perforation fabric improving airing.

25 13. Helmet according to any one of the claims 1 to 12, characterized in that the foam liner (7) comprises a plurality of cut-outs (11) offset with respect to the separating gaps (10) between the shell segments (9).

30 14. Helmet according to any one of the claims 1 to 13, characterized in that the foam liner (7) comprises a plurality of thinned zones (16) offset with respect to the separating gaps (10) between the shell segments (9).

15. Helmet according to any one of the claims 1 to 14, characterized in that the foam liner (7) comprises a plurality of superposed sheets (27) forming a multi-layer structure.

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16. Helmet according to any one of the claims 1 to 15, characterized in that the foam liner (7) is made of polymer foam of the expanded polypropylene type presenting good compression shock-absorbing and flexion elasticity characteristics.

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17. Helmet according to any one of the claims 1 to 16, characterized in that it comprises a plurality of additional shell segments (18) joined to the foam liner (7) and arranged facing the separating gaps (10) between the shell segments (9).

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